

# FIRE DANGER POCKET CARD (SUPPLEMENTAL)

**ROCKY MOUNT  
DISTRICT 5  
FUEL MODEL G  
SHORT NEEDLE (HEAVY DEAD)**

**NWS Forecasting Offices**  
Raleigh, NC  
Wakefield, VA  
Newport-Morehead City, NC

**RAWS/ASOS Stations**  
Rocky Mount 312801  
Goldsboro 317501  
Wilson 315001  
RDU 013722

## LOCAL THRESHOLDS WATCHOUT!

### Temperature

Temperatures above **60 F** are where large and multiple fires typically begin. Working on fires with temperatures above **90 F** consider additional resources, more frequent breaks and the current tactics being implemented.

### Relative Humidity

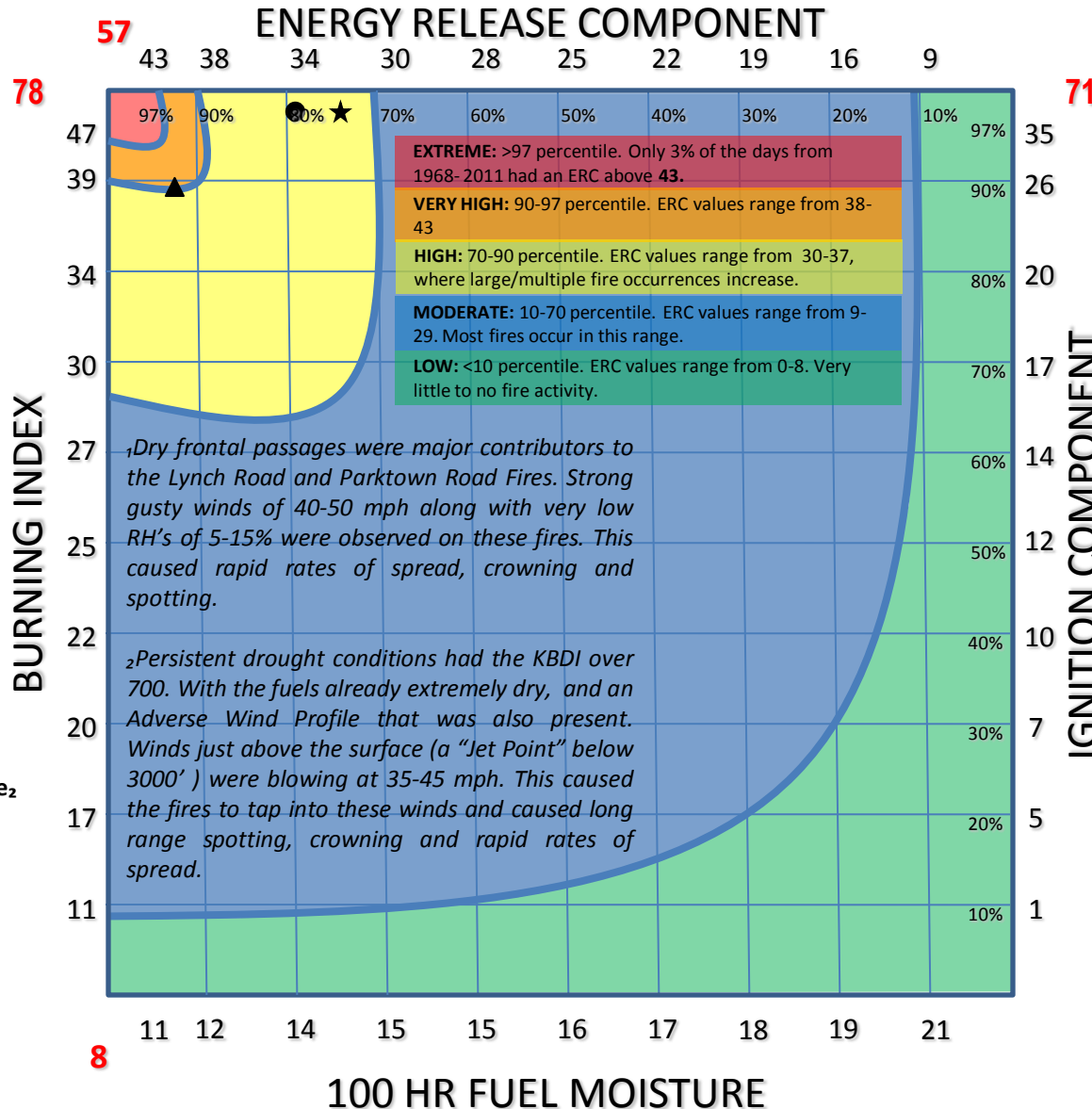
RH's below **30%** are where large and multiple fires increase. When RH's drop below **20%** expect extreme fire behavior not typically seen; spotting, crowning, and rapid rates of spread

### Winds

20' winds above **13mph** (NWS-2 min avg) or 20' winds above **10mph** (RAWS-10 min avg) and eyelevel winds above **7mph**. Wind is the most critical weather factor to stay aware of. Sudden changes in winds cause more firefighter fatalities than any other weather element.

## MEMORABLE FIRES

- ★ **Lynch Road Fire<sub>1</sub>**  
Halifax County  
2000 Acres  
02/10/2008  
IC- 62  
BI- 60  
ERC- 32  
SC- 21  
100HR - 14%
- **Parktown Road Fire<sub>1</sub>**  
Warren County  
2030 Acres  
02/19/2011  
IC- 71  
BI- 53  
ERC- 34  
SC- 16  
100HR- 13%
- ▲ **Purvis Farm Fire<sub>2</sub>**  
Halifax County  
274 Acres  
**Catalytic Converter Fire<sub>2</sub>**  
Northampton County  
194 Acres  
09/25/2010  
IC- 30  
BI- 38  
ERC- 43  
SC- 6  
100HR- 14%



Fuel Model G Short Needle (Heavy Dead)	IGNITION COMPONENT			BURNING INDEX			ENERGY RELEASE COMPONENT			100 HR FUEL MOISTURE		
	Average Seasonal Value	Average Highest Value	Highest Value Observed	Average Seasonal Value	Average Highest Value	Highest Value Observed	Average Seasonal Value	Average Highest Value	Highest Value Observed	Average Seasonal Value	Average Lowest Value	Lowest Value Observed
January	12	35	62	22	46	65	17	32	45	18	13	9
February	15	40	71	26	48	70	20	37	50	17	12	8
March	17	46	68	28	53	78	22	41	54	16	11	8
April	20	46	67	33	55	77	30	43	53	14	11	8
May	15	35	54	30	49	71	30	45	57	15	11	8
June	11	24	33	24	35	49	30	39	48	15	12	9
July	11	24	48	24	36	52	29	42	49	16	13	9
August	10	24	39	22	34	57	26	43	49	17	14	10
September	11	24	51	21	34	50	25	39	47	17	14	9
October	11	26	36	20	34	48	22	35	47	18	15	10
November	12	29	49	22	38	57	21	33	48	18	14	9
December	12	34	69	24	45	71	20	38	47	18	13	9

## REMEMBER WHAT FIRE DANGER TELLS YOU

✓ **Ignition Component (IC)** – the probability a firebrand will cause an “actionable” fire, & requires suppression. **IC** is more than just a probability of a fire start. It has to have the potential to spread. **IC** can aid in assessing spotting potential. An **IC value of >26** is a **critical threshold value**. Values at this level are critical during February through April as firebrands can initiate spot fires very easily.

✓ **IC** gives day-to-day fluctuations calculated from 2 PM temperature, humidity, state of the weather and wind.  
✓ Wind speed is part of **IC** calculation.

**Burning Index (BI)** - relates to the contribution of the fire’s behavior in containing the fire. **BI** is derived from the SC + the ERC. **BI** is a cross reference of fireline intensity & flame length. It accesses spotting & crown fire potential as well as suppression resource needs & tactical considerations. In pine plantations, **BI’s >39** are exceptional intense fires with much spotting. The doubling of the **BI**, 20 to 40 can increase flame length from 2 to 4 ft. yet, this is a 5 fold increase in fireline intensity.

✓ **BI** gives day-to-day fluctuations calculated from 2 PM temperature, humidity, wind, daily temperature and RH ranges, and precip duration.  
✓ Wind speed is part of **BI** calculation.

**Energy Release Component (ERC)** is a number relating to the available energy released from forest fuels (BTU / ft<sup>2</sup>) at the head of a fire’s flaming front. **ERC** is a composite of all live & dead fuel moistures. It is a very good reflection of drought conditions. It is a “build up” type index. Given a fire start in a fuel with a high **ERC**, fire containment can be expected to be difficult. **ERC** is very valuable in assessing the depth of a burn, consumption of the various fuel sizes, residual burning, and mop-up requirements.

✓ **ERC** gives general seasonal trends calculated from precip, temp, and RH.  
✓ Wind speed is not part of the **ERC** calculation.

**100 Hour Fuel Moisture (100 HR)** The 100 hour fuel moisture value represents the modeled moisture content of dead fuels in the 1 to 3 inch diameter class. It can also be used as a very rough estimate of the average moisture content of the forest floor from three-fourths inch to 4 inches below the surface. A **100 HR** fuel moisture **<18%** indicates when response to initial attack fires begin.

✓ **100 HR** gives general seasonal trends calculated from precip, temp, and RH.  
✓ Wind speed is not part of the **100 HR** calculation.



APRIL 1, 2011

This card is based on 42 years of data